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| 09/688,187 | 10/16/2000 | Tatsuya Seshimo | Q61335 | 8574 |

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| EXAMINER |
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HUFFMAN, JULIAN D

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| ART UNIT | PAPER NUMBER |
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2853

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/688,187

Applicant(s)

SESHIMO ET AL.

Examiner

Julian D. Huffman

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-33 and 35-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5,7,8,15-17,20,27 and 36 is/are allowed.
- 6) ☒ Claim(s) 1-3,9-13,18,19,21-26,28-33,35 and 37-51 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3, 35 and 39-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claims 1-3 and 35, claim 1 provides conditional limitations, but does not point out relevant structure. It is suggested that applicant use means plus function language, such as control means for, to recite the structure which performs the conditional determinations and to provide weight for the conditional limitations.

In claim 39, the phrase "information pieces of data items" in lines 2-3 is unclear. Additionally, in lines 12-14, the phrase "the information piece corresponding to and read from the at least one data field" lacks antecedent basis.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 39-42, 49 and 51 rejected under 35 U.S.C. 102(e) as being anticipated by Hilton et al.

Hilton et al. disclose an ink jet recording apparatus to which an ink cartridge storage means is mountable, the storage means has a predetermined format in which information pieces of data items are stored in respective data fields, the recording apparatus comprising:

- a recording head (fig. 3, element 142) to which ink is supplied from the ink cartridge (156) mounted on the recording apparatus;

- an optimum drive condition storage section (21) storing an optimum drive condition for an ink cartridge compatible to the recording apparatus (column 12, lines 39-46, column 9, lines 63-66, column 10, lines 1-10);

- a general purpose drive condition storage section (21) storing a general-purpose drive condition for an ink cartridge incompatible to the recording apparatus (column 12, lines 39-46, column 9, lines 63-66, column 10, lines 1-10);

- a normal setup range storage section storing a normal setup range of at least one data field (column 9, lines 50-53);

- a determination section which compares the information piece corresponding to and read from the at least one data field with the normal setup range, and determines

whether the read information is reliable or not based on a result of the comparison (column 9, lines 50-53);

a mode selection section which selects one of an optimum mode using the optimum drive condition and a general-purpose mode using the general-purpose drive condition based on the determination by the determination section (column 12, lines 39-46, column 9, lines 63-66, column 10, lines 1-10);

a drive control section which controls printing by the recording head based on the selected one of the optimum drive mode and the general-purpose drive mode (21).

With regards to claim 40, Hilton et al. disclose that if the read information piece is out of the normal setup range, the determination section determines that the read information is not reliable and the mode selection section selects the general-purpose mode (column 12, lines 39-46 and column 8, lines 13-17).

With regards to claim 41, Hilton et al. disclose that if the read information piece is within the normal setup range, the determination section determines that the read information is reliable and the mode selection section selects the optimum mode (column 12, lines 39-46).

With regards to claim 42, Hilton et al. disclose that if the information piece is out of the normal setup range, the determination section determines that the mounted ink cartridge is the incompatible ink cartridge (column 8, lines 13-17).

With regards to claim 49, Hilton et al. disclose a feed speed that is lower in the general-purpose drive condition than in the optimum drive condition (column 6, lines 64-67).

With regards to claim 51, Hilton et al. disclose a method of controlling an ink jet recording apparatus comprising an ink jet recording head provided with storage means with a predetermined format in which information pieces of data items are stored in respective data fields storing data for determining compatibility to a recording apparatus, the method comprising:

comparing the information piece corresponding to and read from the at least one data field with a normal setup range (column 9, lines 50-53);

determining whether the read information piece is reliable or not based on a result of the comparison (column 9, lines 54-57);

selecting one of an optimum mode using an optimum drive condition and a general-purpose mode using the general-purpose drive condition based on the determination by the determination section (column 12, lines 39-46 and column 8, lines 13-17);

controlling printing by the recording head based on the selected one of the optimum drive mode and the general-purpose drive mode (column 12, lines 39-46).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-11, 18, 19, 21, 22, 24, 25, 28, 29, 31, 32 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Benjamin.

Hilton et al. disclose an ink jet recording apparatus comprising an ink jet recording head (fig. 3, element 142) for receiving supply of ink from an ink cartridge provided with storage means (25) storing data for determining compatibility to a recording apparatus, and control means (21) for determining compatibility of ink based on the data in the storage means and executing print operation, wherein

when the recording head is to be filled with ink after an ink cartridge is mounted, the control means determines compatibility of the ink cartridge based on the data from the storage means (column 7, lines 30-33).

Hilton et al. disclose displaying on a display (44) of a host computer that the cartridge is not compatible and determines the compatibility prior to using the cartridge. Hilton et al. do not disclose outputting data used as a guide for determining a compatible cartridge.

Benjamin et al. disclose outputting on a computer screen a reorder part number and data used to provide information regarding a nearest dealer to contact for a replacement cartridge (column 4, lines 27-40).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hilton et al. to output part number, address and telephone number information, as suggested by Benjamin et al. The reason for doing such would have been to provide information regarding a nearest dealer where a cartridge may be purchased thereby saving the user time and effort in finding a replacement cartridge.

7. Claims 43-47 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Bullock et al. ('824).

Hilton et al. disclose everything claimed with the exception of using plural data fields and information pieces to determine compatibility.

Bullock et al. disclose reading parameter information, including manufacturing year, month and date, attachment year, month and date, ink type and ink color (column 3, line 67-column 4, line 9), to determine compatibility (column 4, lines 23-27).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hilton et al. to read the characteristic data to determine compatibility, as suggested by Bullock et al. The reason for doing such would have been to provide plural data field for determining compatibility in case one of the data fields becomes corrupted or provides erroneous data to the printer.

8. Claims 23, 26, 30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Benjamin et al., as applied to claims 9-11, 18, 19, 21, 22, 24, 25, 28, 29, 31, 32 and 37-38 and further in view of Webb.

Hilton et al. as modified disclose everything claimed, as discussed above, with the exception of displaying data on both a operation panel of a printer and a display of a host computer.

Webb discloses displaying data on both a host computer and a printer (column 3, line 57-column 4, line 1).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hilton et al. to display data on both a host computer and a

display of a printer. The reason for doing such would have been to provide the user with the ability to see important displayed messages whether they are near the printer, or near the host computer.

9. Claims 12, 13/12 and 13/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Benjamin et al. as applied to claims 9-11, 18, 19, 21, 22, 24, 25, 28, 29, 31, 32 and 37-38 and further in view of Hashimoto and Cowger.

Hilton et al. as modified disclose everything claimed with the exception of a means for determining a recording medium type or ensuring compatibility between a recording apparatus and a recording medium.

Hashimoto discloses determining recording medium type (abstract).

Cowger discloses that it is critical that a recording media be compatible with the type of recording unit used in the printing apparatus (column 1, lines 22-30).

It would have been obvious to one having ordinary skill in the art at the time the of the invention to provide the media detector of Hashimoto in the invention of Hilton et al. and to determine compatibility of the cartridge to the recording media, as suggested by Cowger. The reason for doing such would have been to optimize print settings based on recording media type and ensure high print quality.

Allowable Subject Matter

10. Claims 4, 5, 7, 8, 15-17, 20, 27, and 36 are allowed.

With regards to claims 4, 5, 16, 20 and 27, the prior art of record does not disclose that if the cartridge is incompatible and data is available from the update data storage means, the printer executes print operation based on the data available from the update storage means, and which if incompatible and no data is available from the update data storage means, executes print operation based on the data in the default data storage means.

With regards to claims 7 and 17, the prior art of record does not disclose that the general-purpose drive condition is set such that pressure for ejecting ink is set larger than the optimum drive condition.

With regards to claim 8, the prior art of record does not disclose a plurality of the general purpose drive conditions as claimed in the combination.

With regards to claim 15, the prior art of record does not disclose generating the caution again after a predetermined amount is printed.

With regards to claim 36, the prior art of record does not disclose that the control means determines compatibility of the mounted ink cartridge based on the data from the storage means when the mounted ink cartridge is to be replaced.

Claims 1-3 and 35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

With regards to claims 1-3 and 35, the prior art of record does not disclose generating the caution again after a predetermined amount is printed.

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claim 14, the prior art of record does not disclose that the control means determines compatibility of the mounted ink cartridge based on the data from the storage means when the mounted ink cartridge is to be replaced.

Claims 48 and 50 would be allowable if rewritten to overcome the 112 2nd paragraph rejection and in independent form.

With regards to claim 48, the prior art of record does not disclose the increased pressure.

With regards to claim 50, the prior art of record does not disclose a plurality of the general purpose drive conditions as claimed in the combination.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JH



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